

What is claimed is:

1. A battery comprises a positive electrode, a negative electrode and an electrolyte;

wherein the negative electrode has a collector layer consisting of foil including a metal, which is not copper and does not form an alloy with lithium, or copper foil covering the metal; and

the electrolyte contains a polymer compound synthesized by radical polymerization.

2. A battery according to claim 1, wherein the metal is more noble than copper in respect of oxidation-reduction potential.

3. A battery according to claim 1, wherein the metal is nickel or chromium.

4. A battery according to claim 1, wherein the polymer compound is synthesized by polymerization at 95°C or lower.

5. A battery according to claim 1, wherein the negative electrode includes a material capable of occluding and releasing lithium.

6. A battery according to claim 5, wherein the negative electrode includes a carbonaceous material as the material capable of occluding and releasing lithium.

7. A battery according to claim 1, wherein the positive electrode includes a lithium composite oxide.

8. A battery comprises a positive electrode, a negative electrode, an electrolyte and a separator;

wherein the negative electrode has a collector layer consisting of foil including a metal, which is not copper and does not form an alloy with lithium, or copper foil covering the metal; and

the electrolyte includes a polymer compound synthesized by radical polymerization.

9. A battery according to claim 8, wherein the metal is more noble than copper in respect of oxidation-reduction potential.

10. A battery according to claim 8, wherein the metal is nickel or chromium.

11. A battery according to claim 8, wherein the polymer compound is synthesized by polymerization at 95°C or lower.

12. A battery according to claim 8, wherein the negative electrode includes a material capable of occluding and releasing lithium.

13. A battery according to claim 12, wherein the negative electrode

includes a carbonaceous material as the material capable of occluding and releasing lithium.

14. A battery according to claim 8, wherein the positive electrode includes a lithium composite oxide.

15. A battery comprises a battery device including a positive electrode, a negative electrode, an electrolyte, and a package member enclosing the battery device;

wherein the negative electrode has a collector layer consisting of foil including a metal, which is not copper and does not form an alloy with lithium, or copper foil covering the metal; and

the electrolyte contains a polymer compound synthesized by radical polymerization.

16. A battery according to claim 15, wherein the metal is more noble than copper in respect of oxidation-reduction potential.

17. A battery according to claim 15, wherein the metal is nickel or chromium.

18. A battery according to claim 15, wherein the polymer compound is synthesized by polymerization at 95°C or lower.

19. A battery according to claim 15, wherein the negative electrode includes a material capable of occluding and releasing lithium.
20. A battery according to claim 19, wherein the negative electrode includes a carbonaceous material as the material capable of occluding and releasing lithium.
21. A battery according to claim 15, wherein the positive electrode includes a lithium composite oxide.
22. A battery according to claim 15, wherein the package member is made of a laminate film where a polymer compound film, a metal film, and a polymer compound film are laminated in this order.